REVIEWS.

ART. XX.—*A System of Midwifery, including the Diseases of Pregnancy and the Puerperal State.* By WILLIAM LEISHMAN, M.D., Regius Professor of Midwifery in the University of Glasgow, etc. 8vo. pp. xi., 835. Glasgow: James Maclehose; London and New York: Macmillan & Co., 1873.
The same. 8vo. pp. 715. Philadelphia: Henry C. Lea, 1873.

IT is now eight years since an essay, by Dr. Leishman, on *The Mechanism of Parturition*, was reviewed in the pages of this Journal,[1] in a manner which cannot fail to excite our admiration, both on account of the critical accuracy of its style, and the earnest and uncompromising spirit in which the author sought to estimate the real value of the work as a contribution to a most difficult portion of obstetrics. It was appropriate and fitting that this duty should have been performed by Prof. Hodge, for he was prominent among the few who, relying on their own judgment and clinical observation, had refused to accept, in their totality, the doctrines advanced by the elder Naegele in his celebrated paper, first published in *Meckel's Archives*, in 1813, the appearance of which, and its translation by Dr. Rigby, constituted an era in obstetrics. The description of the mechanism of labour was so lucid, and, as a whole, so satisfactory and easy of verification at the bedside, that it required unusual judgment and talent, not only to recognize the falsity of certain portions of the description, but also to demonstrate the source of error. Cazeaux, Matthews Duncan, and Hodge, in denying the existence of any biparietal obliquity of the head in natural labour, were in direct variance to the teachings of Naegele and his numerous followers. There is no doubt but that, at the present time, the number of those who are unwilling to accept the dictum of Naegele on this point is rapidly increasing, and this result can be traced, in a great measure, to the influence exerted on the minds of the profession by this critical essay, by Dr. Leishman, on *The Mechanism of Parturition*.

The present volume is one which was foreshadowed in the concluding pages of this smaller work, in which the author regrets the restricted nature of his self-imposed task, confined, as it was, to presentations of the head alone, and half hints a promise "of recurring again to the subject," enriched by a more "extended experience and careful study." This promise he has more than kept, for he has produced a "system of midwifery, embracing the diseases of pregnancy and of the puerperal state." It is a splendid contribution to science, a fit companion volume in this age to that of his predecessor, Mr. Burns, whose classic work still charms and delights those whose studies carry them beyond the mere literature of the day. But, valuable as the work is, there are, almost of necessity, portions which do not bear the same evidences of careful study and observation. Instead, therefore, of general expressions of praise or blame, we have selected such passages in no spirit of verbal criticism or indiscriminate censure, but in order to point out what we consider to be real defects. The researches of the elder Naegele, made in 1825, with regard to the inclination of the pelvis, are accepted without either criticism or comment other than the assertion that he it was who first recognized the fact that the plane of the brim formed with the horizon an angle of 60° or more. As a point of interest to those who love to trace the gradual develpment of anatomy in art, we would call attention to the fact that Leonardo da Vinci,[1] in a drawing of the bony framework of the trunk, has represented the pelvis as inclined to the vertebral column, at an angle which the recent researches of Weber and Meyer have shown to be absolutely correct, while even Vesalius and his followers, until the time of Albinus, taught that the plane of the superior strait was either horizontal or nearly so, so that Hunter's assertion, that "Da Vinci was by far the most skilful anatomist and physiologist of his time," acquires new corroboration. In point of fact a traditional importance has been given to the inclination of the pelvis which it does not in reality deserve, for it is not, as has been supposed, a constant and unchanging relation even in the same individual. Indeed, Naegele had a suspicion of this fact, for after describing his method of measuring this angle, he writes:[2] "One can readily be convinced that this method, simple and easy as it seems, and indeed is, requires nevertheless some practice; for when the measurements, which have been made by any one who has not had some experience in this method, are repeated either by himself or another person, a considerable deviation will usually be found to exist." Weber[3] recognized this fact still more clearly, while Meyer[4] has conclusively shown that this angle of inclination is exceedingly variable even in the same individual, being increased or diminished by the various movements of the lower extremities; thus, for example, it is greatest when the limbs are brought closely together or widely separated, combined with extreme rotation, either inwards or outwards. Hence the source of error in Naegele's method of computation, for, in order to measure the inclination of the outlet of the pelvis on the living woman, from which, by a comparison of the known relation of the inferior to the superior strait, he deduced the inclination of the brim—the patient was obliged to stand, with her legs wide apart and the feet turned somewhat inwards, so that the angle was always *overestimated* by Naegele and others. The actual result reached by Meyer does not differ much from that of his predecessors, as he estimates the angle at 54°.5, while it is usually given at 60°, but the important point reached is this, that being so variable it has but little value in the study of the mechanism of labour, but, inasmuch as it can be materially changed at will by altering the position of the patient, it does acquire a new importance therapeutically considered. There is, however, a point, of far greater importance than the inclination of the pelvis, which finds no mention, viz., the angle which the symphysis pubis forms with the plane of the superior strait; this should normally be about 100°, if, however, it is much greater than this, the entrance of the head into the pelvic cavity must be obstructed, while, by a diminution in this angle, progressive resistance will be offered as the head approaches the pelvic outlet.

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[1] No. for April, 1865, p. 143.

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[1] Langer. Sitzb. d. k. Akad. d. Wissensch., 1 Abth., 1867. Leonardo da Vinci, d. erste Darsteller d. richtigen Lage d. Mensch. Beckens.

[2] Das Weibliche Becken Carlsruhe, 1825.

[3] Mechanik d. Mensch. Gehwerkzeuge. Göttingen, 1836.

[4] Meyer die Becken Neigung Arch. f. Anat. and Phys., 1861, p. 178.

Already in the first few pages of his work the author is compelled to deplore the "unfortunate discrepancy" which exists in the whole subject of obstetrical nomenclature; and that this complaint is well founded, can scarely be questioned when the "*right* oblique diameter of the pelvis" in English and German works appears as the "*left* oblique" of the French and American writers; when the number of positions given varies from two to eight; when, in fact, each author becomes a law unto himself, even in regard to the meaning of the terms "position" and "presentation," when the "spontaneous evolution" of Denman reappears as the "spontaneous expulsion" of Douglas, or "the spontaneous version" of the Germans, and the process described by Douglas is rechristened and converted into "spontaneous evolution." Is this not indeed "confusion worse confounded?" and it is to this unfortunate misuse of words and carelessness of expression that progress in the science of obstetrics has been so retarded. The subject of a universal pharmacopœia was referred to a special committee at the Medical Congress held during the Vienna Exposition, while the British and the American Medical Associations are both labouring to construct a common system of nomenclature in diseases, but, in midwifery, where reform is most needed, no attempt has been made to devise a common basis of classification, and by mutual consent to limit and define the phrases in common use. Nothing can more hopelessly confuse an American student than the use of an English textbook on obstetrics, unless, as has repeatedly been done in this volume, his attention is especially directed to the "discrepancies of nomenclature."

As the author does not hesitate to claim familiarity with "modern works of approved merit, either British or foreign," it is not without surprise that we read of the "peritoneal covering of the ovary," for, even if the German language was an unfamilar tongue, as it assuredly is not, the brilliant researches of Waldeyer[1], which have made an epoch in the histology and pathology of the ovaries, should have been familiar to him through the admirable translation which is incorporated into the work on the Diseases of the Ovaries, by Peaslee.[2] That the peritoneum ceases abruptly in a jagged or wavelike line at the border of the ovary is a fact so easy of demonstration that the naked eye is alone needed to bring conviction, while even a low power of the microscope reveals an abrupt change in the character of the epithelial cells. The description of the Graafian vesicle, the contained ovum, and the formation of the corpus luteum evidences throughout complete ignorance of all that has been accomplished in the last decade, which has been so fruitful in observations on the early history of the ovum. The hackneyed *analogy* which is usually drawn between the ovum and a simple organic cell is wanting, and the author has evidently no conception of the real truth, that "this spherical body" differs[3] in *no respect* from any other organic cell in the body, consisting only of a mass of protoplasm with a nucleus and nucleolus, not even possessing at first a cell membrane. The nucleus does in truth disappear soon after impregnation and reappear in each of the cells which are produced by the prolifera-

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[1] Waldeyer, Eierstock u. Ei. Leipzig, 1870.

[2] Peaslee, Ovarian Tumours.

[3] "Indem es nicht dem germgsten Zweifel unterliegen kann, dass diese Eier wirklishe einfache Zellen, und die Keimbläschen deren Kerme sind." Kölliker. Entwicklungs Geschichte, p. 28.

tion of the parent cell ("segmentation of the vitellus"), but what is meant by the expression that a "new *embryo cell*" forms in the place of the germinal vesicle which has disappeared, could not easily be explained.

The various theories which have been maintained with regard to the condition of the mucous membrane of the uterus during menstruation are presented in detail, but unfortunately the investigations of Kundrat and Engelman[1] are not considered, and yet their observations made on 217 uteri taken from the bodies of women who were either menstruating or pregnant at the time of death, constitute by far the most valuable contribution which has been made on this subject. The theory of Pouchet that the whole or greater part of the mucous membrane is shed at or between each menstrual epoch, although dismissed by Prof. Leishman with the remark that "this distinguished and able physiologist is rather addicted to jumping at conclusions," contains, nevertheless, *quite as much* truth as the statement made by the author on the same page, that " the separation of the *whole* mucous membrane of the uterus under the name of decidua always occurs at the moment of delivery." The microscope shows, according to Kundrat, that a few days before the menstrual flow is established a proliferation of the cells of the interglandular tissue takes place, by which that portion of the mucous membrane which lies nearest the cavity becomes infiltrated with newly-formed round cells. When the capillary vessels rupture, these cells have already passed through a stage of " cloudy swelling" and fatty degeneration, and this *superficial* portion of the mucous membrane is thrown off during the continuance of the discharge, and for some days after its cessation, so that the time during which the uterus is physiologically quiescent, so to speak, must be much shorter than has heretofore been supposed. If this description is true, and it rests on the most careful microscopic observations, additional weight is given to the theory of Löwenhardt,[2] originating in its turn in the clinical study of cases, viz., that the ovum which is impregnated is not the one which was discharged from the Graafian follicle at the time of the last menstrual epoch, but at the succeeding period, when menstruation is arrested, for it is by the presence of the fructified ovum in the uterus that the process of retrograde metamorphosis of the mucous membrane is checked, and the luxuriant growth inaugurated by which the future nutrition of the ovum is secured by the formation of the placenta. In this way at regularly recurring intervals the uterus prepares for the reception and development of an impregnated ovum, but if this fructification does not take place, the newly-formed tissues of the superficial layer of the mucous membrane undergo fatty degeneration, the capillaries rupture, and hemorrhage results. Regarded in the light of these new contributions to our knowledge of the condition of the mucous membrane during menstruation, the *theory* of Pouchet, confirmed in the main by the microscope and clinical observation, deserves more courteous consideration than it has received at the hands of the author.

At the commencement of the chapter on embryology Prof. Leishman paralyzes all criticism by frankly confessing that " at the risk of trifling inaccuracy here and there" he prefers to respect and repeat the routine errors of our text-books. One curious mistake exists, however, which shows, by its constant repetition, what a puzzle the whole process has proved to the author; inasmuch as he more than once refers to a "small slit" in the amniotic sheath of the umbilical cord, which gives egress to the pedicle of the shrunken umbilical vesicle, which thus comes to lie outside of the amnion," "a point which the student occasionally has some difficulty in understanding." The puzzle would be to understand how the pedicle could ever get *inside* the amnion, and if the student glances, as he is urged to do, at the admirable drawing taken from Coste's atlas, he will have still greater difficulty in understanding it, until he has had the courage to draw his pencil through the faulty explanation. We have already had occasion to deplore the vagueness with which technical expressions are used by different authors, "every writer being allowed," as Prof. Leishman says, "to attach to a word his own meaning," but, this privilege being granted, we are certainly justified in asking that the word or phrase shall thereafter be used in that sense. Unfortunately the terms presentation and position are employed with the utmost carelessness, indeed it almost seems synonymously, for in speaking of the theories which have been advanced to account for the presentation of the head, allusion is made to the old fancy that "about the 7th month the *position* became inverted, and now for the first time the head was normally beneath;" indeed, the frequency of "presentations of the head" is considered under the title, "causes of the position of the fœtus." In this matter there is no safety, except in reserving the word presentation (Lage) to express the relation which the long axis of the child bears to that of the uterus, while we designate the relation which definite parts of the presenting portion of the child bear to the pelvis as "position" (Stellung). But, as Scanzoni[1] first demonstrated in 1866, the presentation of the child is not fixed and determined even during the last weeks of pregnancy, spontaneous changes taking place with great ease, and in illustration of this fact he records a case where within five days the fœtus made six complete revolutions or somersaults, finally presenting by the head when labour commenced. Credé[2] found that in only seven out of 240 pregnant women did the presentation remain constant during the last months of pregnancy. It is but natural that owing to the greater tension of the uterine and abdominal parietes these movements should occur less frequently in primiparæ than in women who have borne children, but that they do often occur is proved by the observations of Hecker[3] and Schröder,[4] and this fact possesses more than a mere scientific value, for on the facility with which these changes can be accomplished depends the success of the most conservative operation in obstetrics, viz., version by external manipulation alone; nor is it to be wondered at that this method finds scanty mention when the author has either entirely overlooked, or is ignorant of, this important fact of the frequency of this spontaneous change of presentation, and the ease with which it can be artificially accomplished.

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[1] Untersuchungen über die uterusschleimhaut. Kundrat u. Engelman. Med. Jahrbuch, ii. Heft. 1873.

[2] Löwenhardt, Die Berechnung u. die Dauer der Schwangershaft Archiv für Gynækologie, Band iii., 1872, p. 456.

It is again necessary to call attention to the condition of the cervix uteri during gestation and at the time of parturition. It is curious to trace the successive steps by which the theory, that the cavity of the cervix is encroached upon and converted into the body of the uterus, has been gradually disproved, until now the modified teachings of Stoltz and Cazeaux[5] are generally accepted, according to which "the whole length of the cervix disappears during the last fortnight, being lost in the cavity of the body." Matthews Duncan[1] goes one step further and states that the complete obliteration of the cervical canal takes place during the last *few days* of the ninth month, being effected by contractions of the uterus, which are usually painless. It is to Dr. Isaac Taylor[2] of New York that the credit belongs of having shown, in 1852, that, so far from being shortened or effaced at the time of labour, the cervical canal retains its whole length, the distance of the os uteri internum from the os externum being, as both Taylor and Braun[3] assert, rather increased than diminished at the end of pregnancy. Nor does this assertion of Dr. Taylor rest on a mere dictum, but it is supported by twenty-five morbid specimens taken from women who died at full term, which "proves that the cervix uteri is of the same length, and sometimes even longer than at the time of conception,"[4] indeed a careful examination of post-mortem specimens, and a study of the relationship of parts in obstetric operations cannot fail to bring convincing proof of the truth of this assertion.[5] An *apparent* obliteration of the anterior lip of the intravaginal portion of the cervix is caused in primiparæ, as Schröder[6] has demonstrated by the fact that "the entire anterior arch of the vagina is forced downwards by the head, which has already entered the true pelvis, or which has descended even as far as the pelvic outlet. By this means that reflection of the mucous membrane which forms the anterior vaginal cul-de-sac is effaced, so that the mucous membrane joins the anterior lip on a level with the external os, and the anterior part of the vaginal portion of the cervix disappears. But this does not prove that the *cervical canal* has disappeared, . . . for in order to pass the examining finger into the body of the uterus, it must traverse the entire canal, when it will be evident that it really measures about three cent." The diagrams showing the condition of the cervix during gestation are borrowed without acknowledgment from Schultze's[7] magnificent atlas, which has been freely used to furnish illustrations for the work with but sparing recognition of the source from which they have been drawn. The drawing of the fœtal skull showing its diameters is possibly strictly original, the elongated and curiously developed occipital protuberance suggests only the photographs of fœtal skulls with which Ahlfeld[8] has adorned a lately published brochure, in which he endeavours to show that this malpresentation depends upon an abnormal form of the head by which the antero-posterior diameter is prolonged. This curious type of cranial development was a constant puzzle until a close examination of the text showed that the drawing was far easier to understand than the principle according to which the diameters are drawn; for the occipito-frontal, "the long diameter of the oval cranium," starts not from the posterior fontanelle, although there is no doubt that "this is what most modern writers who are exact in the matter understand by the term occiput," but from the occipital protuberance, while in the same drawing the *occipito*-mental diameter is drawn, not from this protuberance, but from the *posterior fontanelle*, an "*unfortunate discrepancy*" in the understanding of the word *occiput*, which we will hereafter find causes serious embarrassment and confusion in the description of the mechanism of labour.

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[1] Wiener Medicin. Wochenschrift, 1866.

[2] Credé, Observ. de fœtus situ inter graviditatem. Leipsiæ, 1862–64.

[3] Hecker, Klinik d. Geburtskunde, 1861, Band i., p. 17.

[4] Schröder, Lehrbuch der Geburtshülfe, p. 49.

[5] Cazeaux, Midwifery, p. 111.

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[1] Duncan, Researches in Obstetrics.

[2] Isaac Taylor, Facts in Relation to Placenta Prævia, p. 4. New York, 1865.

[3] Braun, Lehrbuch der Geburtshülfe, p. 109. "Das anatomische orificium internum von äussern mŭttermŭnde üter 3'' weit absteht.

[4] Taylor, The Mechanism of Spontaneous Active Uterine Inversion, p. 35.

[5] Lott, z. Anat. u. Physiol. d. Cervix Uteri. Erlangen, 1872. Braune D. Lage, d. Uterus u. Fœtus am ende d. Schwangerschaft. Leipzig, 1872.

[6] Schröder, op. cit., p. 88.

[7] Schultze, Wandtafeln z. Schwangersch. u. Geburts. kunde.

[8] Ahlfeld, Die Entstehung d. Stru. u. Gesichtslagen. Leipzig, 1873.

Before considering the question of superfœtation, the author very justly insists on greater accuracy in the use of terms, and distinguishes between superfœtation and superfecundation; but by mistranslating a passage from Scanzoni, he has in reality only increased the confusion which already exists. Scanzoni[1] does *not* say that superfœtation "occurs after the formation of the decidua, while superfecundation occurs before that membrane is developed," but he merely quotes from Kussmaul,[2] whose admirable work contains nearly all that is even yet known on this subject. In this the distinction is clearly drawn, viz., superfecundation is the second conception (nachempfangniss) by a subsequent act of coition occurring during the first menstrual or ovular period; while superfœtation takes place when impregnation is effected at any time after this period. The possibility of superfecundation occurring both in the lower animals and the human female can scarcely be questioned, while the main argument against accepting the so-called cases of superfœtation is not the obstacle which the decidua opposes to the passage of the spermatozoon, for the intimate union of the vera and reflexa does not occur until the third month, but the fact, that during pregnancy the function of ovulation is temporarily arrested, at least the statements of such careful observers as Kiwisch[3] and Virchow[4] agree in so far as they have never found any trace of a recently ruptured Graafian follicle in the ovary of a woman who has died shortly after childbirth, and indeed Scanzoni[5] is almost alone in his assertion that the periodic maturation, and occasionally the rupture of the ovisac, *may* take place during pregnancy. The author expresses a most guarded judgment as to the possibility of superfœtation, and as a good illustration of the nervously conscientious manner in which most questions are summed up, we give the passage *in extenso*—

> "The subject is, however, so veiled in obscurity that we hesitate to deny the possibility of error, or to admit unreservedly the doctrine of superfœtation. At the same time we must not urge too far mere improbabilities as against rational proof. Much we admit must be established in regard to the matter before the doctrine can be expected to obtain universal credence; but we apprehend that the confident opinion of those who reject it, in the face of ascertained facts, is, to say the least, decidedly premature."

But certainly no one can complain of any uncertainty of expression in the discussion of the causal relation which exists between ovulation and menstruation, for it is distinctly stated that "when the ovaries have been removed the *invariable and immediate cessation* of menstruation has resulted." So far as we know there exist but two cases in which the normal ovary has been removed from the human female, and, however we may regard these operations in the light of science and humanity, we are nevertheless justified in availing ourselves of them as contributions to experimental physiology. The history of the first operation performed by Dr. Battey,[1] of Georgia, on a patient, aged 30, whose sufferings at the time of menstruation were so severe, and her health was so impaired, that it was deemed advisable to artificially produce "the change of life" by extirpating the ovaries. In the subsequent history of this case it is stated that, although "the patient has improved wonderfully in her health and spirits," she had nevertheless menstruated regularly since the removal of both ovaries, the discharge lasting sometimes only one day; but at the last period, the sixth since the operation, the flow was more profuse than she had ever experienced before." That Prof. Leishman should not have seen the report of this case and that performed by Dr. Westmoreland,[2] of Atlanta, is not to be wondered at, but surely he must be familiar with the histories recorded by Spencer Wells, Peaslee, and Atlee, the last of whom mentions a case in which he removed the remaining ovary from a patient on whom Mr. Clay, of Manchester, had performed ovariotomy, and yet two years after the operation menstruation took place regularly every month; or the still more remarkable case reported by Dr. Storer[3] in which the uterus itself, as well as both ovaries, were removed; and, nevertheless, twenty-six days after the operation a sanguineous effusion occurred, lasting thirty hours, being evidently an attempt to re-establish menstruation. But instances multiply, and while we are willing to employ the term "metrostaxis" to indicate a bloody discharge from the vagina, occurring after the removal of the ovaries, it is not hypercritical to insist on some modification of such statements as that which the author has made.

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[1] Scanzoni, Lehrbuch d. Geburtshülfe, p. 211, 1872.

[2] Kussmaul, Von dem Mangel, der Verkürmmerung u. Verdopplung der Gebärmutter, p. 273.

[3] Kiwisch, Geburtskunde, Bd. 1, S. 216.

[4] Virchow, Gesammelte Abhandlungen.

[5] Beiträge z. Geburtskunde, Bd. iv. p. 311

We approach now that portion of the work which bears most clearly the impress of the independent and earnest spirit of investigation which has already made Prof. Leishman's name familiar to all those who have especially studied the mechanism of parturition. The appearance of the little brochure, before alluded to, by the elder Naegele, paralyzed, singularly enough, for a time, any further research in this subject. So careful had been the clinical study, and so clear was the analysis of the phenomena of labour, that the impression became general that this problem had been solved, and the value and import of each factor determined. It is, perhaps, more to Dr. Leishman's essay, published in 1864, than to any other work, that the attention of the profession was redirected to the physiology of this process, and that the gradual change which has taken place in the descriptions of the mechanism of labour is to be traced. For this he deserves and has received the warmest thanks and acknowledgments; but while the essay presented abundant evidences of profound research in the historical portions, and a careful clinical study of each step in the process, it was, nevertheless, not free from serious faults, more especially inaccuracies of expression, which exposed him at that time to sharp criticism on the part of those who had most thoroughly studied this subject. Although in part acknowledging the justice of these criticisms, he has in many instances refused to accept them. For instance, while confessing that the definition of the term presentation which is given by Prof. Hodge, viz., "that portion of the fœtal ellipse which is towards the centre of the pelvis, or of the dilated vagina, in the different periods of labour," is "mathematically more cor-

[1] Robert Battey, Normal Ovariotomy, a paper read before the Georgia Medical Association.

[2] Westmoreland, Atlanta Medical Journal, 1873.

[3] Horatio R. Storer, Successful Removal of the Uterus and both Ovaries by Abdominal Section; Amer. Journ. of Med. Sci., 1866.

rect," he nevertheless "owns to a preference for the meaning which is attached to the word by Dr. Tyler Smith, who defines it as that "portion of the fœtal head felt most prominently within the os uteri, the vagina, and the ostium vaginæ in the successive stages of labour." The manifest advantages are so great in the use of the term presentation to express the relation which the head or presenting part actually bears to the maternal parts, rather than employing it to describe the varying relation which it bears to the examining finger, that it would be hard to defend this last definition on any ground; but yielding this point, we should then logically speak of the presentation of the right or left parietal bone, or whatever may be the actual part with which the finger first comes in contact, and indeed, Hohl,[1] and a few other German authors who are consistent, speak always of the different "presentations of the parietal bone" (Scheitelbeinlage). A curious significance is attached to the term "vertex," which the author defines as "a point midway between the two fontanelles," but "owing to the infinite varieties which obtain in the comparative position of the two fontanelles as regards the pelvic axes, the term vertex is used to include the sagittal suture in its whole length, and on either side that portion of the parietal bone which lies between the suture and the protuberance." The usual definition of the term, viz., the region around the posterior fontanelle, or, as Prof. Hodge says, "as regards the scalp the portion where the hair parts," is rejected because this is not "the portion of the head which is highest in the erect posture;" but in order to avoid error we must remember that at the commencement of a normal labour the fœtus does not occupy an erect posture, but is doubled on itself so as to form the fœtal ellipse, the head being forcibly flexed on the chest, and in this attitude it is the region around the posterior fontanelle to which, as the lowest (that is, highest, the child being inverted), the name of vertex should be given. Any great deviation from this "habitus," so that the head presents (as fig. 100 represents) with the biparietal plane (viz., a plane "passing from the posterior to a point just in advance of the anterior fontanelle"), and subsequently the occipito-frontal plane corresponding with the plane of the superior strait, constitutes in so far an abnormal labour, a deviated vertex presentation, as the German writers say; one which, it is true, the first labour pains usually convert, by flexing the head, into an ordinary vertex presentation, but at the same time one which, if certain conditions be present, may result in a brow or face presentation.

While the author does not admit the existence of any biparietal obliquity at the superior strait, he nevertheless believes that in typical cases there is a certain amount of both biparietal and pelvic obliquity at the outlet, neither of which are granted by Küneckе, Hodge, or Duncan, but which are still maintained by Schröder and others of the German school. These obliquities at the outlet are fortunately, as the author writes, of comparatively trifling importance. In one other point in the admirable description which Prof. Leishman gives of the mechanism of labour, we are not in accord, viz., with regard to the importance of the ischial spines in determining the rotation of the head, the remark of Tyler Smith being quoted with approbation, that "the key to the pelvic mechanism in an obstetric sense may be said to be the spinous processes of the ischia." While we are ready to admit that the conformation of the anterior inclined plane is such as to facilitate the process of rotation when once inaugurated, it is nevertheless true that it is to other mechanical forces that we must look for an explanation of this important movement, which is, we believe, due to the unequal resistance which the descending occiput encounters from the shallow anterior wall, as compared with the extended bony and muscular structures which form the posterior wall of the pelvis. Hence the lowest portion of the occiput—normally the posterior fontanelle—or "guiding point" must inevitably be driven in the direction of the least resistance, viz., anteriorly, and its movement in this direction is encouraged by the so-called "rifled" or screw-like character of the anterior pelvic plane.

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[1] Hohl, Lehrbuch d. Gebertshülfe, Leipzig, p. 418.

In considering the occipito-posterior positions attention is thus called to the fact that rotation takes place only after the descent and complete flexion of the head. "The more marked the flexion of the head, and the nearer the posterior fontanelle is to the examining finger, the greater is the confidence with which we anticipate a natural and satisfactory rotation," so that whether we adopt the theory which refers rotation of the occiput anteriorly to the preponderance of resistance posteriorly, or that of the author who ascribed it to the relation which exists between the forehead and the spine of the ischium, the important practical point can still be deduced, that *no attempt should be made to force this rotation*, which naturally cannot take place until the occiput has reached the pelvic floor, the only assistance which is justifiable being a manipulation by which the forehead is elevated while the occiput is brought down, when the labour in the *vast majority* of the cases is completed by a spontaneous rotation of the occiput anteriorly.

In the chapter on the treatment of transverse presentations, we find no mention made of the possibility of effecting version by external manipulation *alone* before the rupture of the bag of waters. Indeed, there is nothing which is more conspicuously faulty in the treatise than the entire absence of all notice of external manipulations, which constitute one of the greatest advances which have been made in obstetrics. It is, indeed, difficult to overestimate the value of this method of examination by it without even introducing one finger into the vagina. The duration of pregnancy, the presentation, position of the child, and the character of the pains, can be ascertained, the placenta delivered, transverse presentations can be converted into presentations of the vertex, and of late[1] even face presentations have been transformed into presentations of the occiput. In the lying-in wards of the large hospitals abroad, where each woman is examined repeatedly before delivery and the presentation recorded, cross-births are frequently rectified by the students on duty in the wards, before the rupture of the bag of waters, by external manipulation aided by a postural treatment of the patient. The only reference to this method that we can find is contained in this statement, "that the directions which Wigand gives include elaborate but, we fear, impracticable instructions as to the manner in which we should proceed," with regard to the position of the patient, etc.; and yet Martin,[2] Braun,[3] and others bear the most emphatic testimony with regard to the value of this method. During the existence of any epidemic of puerperal fever, the acquisition of the needed knowledge and the management of the case by external manipulation alone become especially valuable, because by this means the possibility of infection by the hand of the accoucheur can be eliminated.

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[1] Schatz, Die Umwandlung v. Gesichtslage zu Hinterhauptslage durch Alleinigen Ausseren Handgriffen Arch. f. Gynækologie, B. v. p. 328.

[2] Martin, Beit. z. Gynækologie, Jena, Heft 2.

[3] Braun, Lehrbuch d. Geburtshülfe, p. 783.

So many points of interest suggest themselves in the consideration of the remaining chapters that it is hard to select that which is most important, but the already extended limits of this review warn us to be brief. A few words, however, with regard to the chapter on the forceps. The use of the *straight* forceps is advised in all cases except when the head is at the brim or in the upper third of the pelvic cavity. But in order to increase their working range Prof. Leishman prefers an instrument which is larger and stronger than the usual models. The line of argument which the author adopts is one which hardly admits of any refutation. I like the straight forceps because I have a "personal predilection for them," because "I have been trained to them," and because "there can be no mistake made between the upper and lower, the anterior and posterior blade," and I "recommend them to young practitioners, who generally possess but one pair," because they will leave him in the lurch when the head is at the brim, while the double curved instrument will carry him safely through every emergency—"being equally efficient in the hands of those skilled in in its use," while the "danger of slipping is less when used by the inexperienced." So far these arguments are certainly not forcible, but one objection which is urged against the double curved instrument is possibly true, viz., that, if it is necessary to alter the position of the head by forced rotation, this can only be effected by a straight instrument. We reply that, omitting the manipulation for the rectification of position described by Scanzoni[1] in which an instrument with a pelvic curve is used, we will only quote the author's own limitations to the performance of the operation: "In occipito-posterior positions we may succeed in amending the position of the head in two classes of cases, 1st, when the head is free at the brim, when a double curved instrument must be used, as the author himself distinctly states, and 2dly, when the head has reached the floor of the pelvis, "when the forceps are quite inapplicable," for then the vectis or the finger is to be used to promote flexion, and to allow rotation to take place spontaneously. Indeed, on all sides we hear protests against the forced rotation of the head anteriorly in occipito-posterior positions, and Barnes[2] only reaches the prevailing opinion when he writes: "The head can be born very well, preserving the occipito-posterior position throughout. Nor does the case call for any amount of force. By aid of the forceps the delivery is nearly as easy as when this instrument is applied to the occipito-anterior position." Being so prejudiced, then, in favour of the short forceps, it is not unnatural that the author should view with apprehension any other form of the instrument, and hence he displays a nervous anxiety when speaking of the long forceps, which to the American practitioner, who, in general, knows no other instrument than the long French forceps, or at most Simpson's modification of Naegele's, cannot but have a serio-comic air. "No one should take the long forceps into his hands without a sense of responsibility much greater than attaches to the ordinary operation." "The operation by the long forceps is one to which, as a rule, a considerable amount of difficulty and danger is attached; it must be regarded with apprehension as one beset with difficulties and dangers." We must not forget, however, that the author restricts the use of the long forceps to those cases where the head is either above the brim or in the upper third of the pelvic canal, and hence transfers the dangers of the condition which necessitates an operation to the *form of instrument* used. But aside from this, there can be, we think, no doubt but that the application of the forceps at the superior strait, or even on the movable head, is an operation which has found far greater favour in this country than the performance of version, and hence has developed an exceptional degree of skill in the use of the forceps in these cases. This is no place to discuss the comparative merits of version and the use of the forceps in these cases; our object is only to show how much greater range and latitude the application of the forceps at the superior strait has in this country as compared with England or the Continent.

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[1] Scanzoni, Lehrbuch d. Geburtshülfe, vol. iii. p. 191.

[2] Barnes, Lectures on Obstetric Operations, p. 79.

It is with a hesitation which betokens a full appreciation of the difficulties of the subject that Prof. Leishman approaches the consideration of that protean malady, puerperal fever. It is evident that the author has studied thoroughly the history of this disease as portrayed by English writers; and what wonder is it that, staggered by the contradictory and positive statements, he can only conclude that the "type of the epidemic changes" when one observer states that "under the most heroic use of the lancet almost all of his cases recovered; while a second has observed that when bloodletting was practised almost every case died; and still a third describes under the name of puerperal fever, an affection so trifling that it was usually checked by a single dose of Dover's powder." In this short quotation we have revealed the secret of the utterly uncertain and confused manner in which this whole subject is presented, resulting from mere clinical observation. No attempt has been made to study the true pathological character of the process; the range of view is narrow; and the work has been done with a feeble and groping hand. Although the "puerperal process" still rests under a dark cloud of uncertainty, necessitating as it does for its complete understanding a knowledge of the entire process of septic infection, nevertheless, the labours of Virchow, Buhl, Hecker, and Schröder have at least furnished a sure basis for subsequent investigation by emphasizing the fact that this morbid process has in it nothing individual, or *sui generis;* but is merely an expression, modified by the anatomical pecularities of the parts, of certain results which must follow the introduction into the economy of septic material. It has heretofore been the fatal genius of obstetrics, that there have been so few workers in this field whose knowledge of pathological anatomy has been at all commensurate with their ability as obstetricians, and, unfortunately, their vague and general theories, in regard to the essential and intimate nature of morbid processes, have carried with them the weight and authority which justly belonged to their *clinical* experience. Looked at in the light of modern pathology, the "puerperal process" is seen to conform to the general laws of septic infection, as evidenced in other parts of the body, and although the details of this condition are still in many respects undeveloped and unexplained, there is no more obscurity hanging over puerperal fever than over surgical fever. It is only when we have failed to gain a comprehensive view of a disease that we are inclined to magnify and exalt each individual symptom into a distinct process, or to increase indefinitely the special forms which it may assume. Prof. Leishman states repeatedly his belief that puerperal fever depends upon the absorption of some peculiar poison, but fails altogether to connect the general phenomena of the disease with the pathological anatomy of the process. It is unquestionably true that in certain rare cases, usually occurring in the midst of an epidemic, death occurs before the development of any material lesion perceptible to the eye, but in those cases where the system is overwhelmed by the introduction of the poison, the microscope reveals, as Hecker[1] has shown, a cloudy swelling of most of the constituent parts of the organs, fatty degeneration and even disintegration of the tissues.

In conclusion, while we have not hesitated to offer a few criticisms suggested by a careful perusal of the volume, we are nevertheless fully aware that we have ventured in some instances on debatable ground, and we have not failed to recognize the ability and fairness with which statements not in harmony with those which we have advanced are supported by the author. But we earnestly feel that in accepting the task of reviewing a book of this character we are conscientiously bound to offer such suggestions and criticisms as may at least lead to a careful revision—possibly correction—of certain portions of the work. It is because the volume is one of unusual merit that we have devoted so much space to its consideration. For some time past no work has appeared which could fairly claim to represent the advanced school of English obstetrics. It is only reasonable to assume that this work will for many years occupy this position. Its scope is extensive, embracing not only the physiology and pathology of gestation and parturition, but also a full description of the disorders of the puerperal state, and the care of the newborn child. It is eminently rich in illustrations, not old, worn-out pictures which have descended from one text-book to another, but original drawings, or reproductions of large plates, including among others that admirable series by Prof. Schultze, which now appear for the first time in this form. The style is neither dull nor didactic, but possesses peculiar freshness and vigour. As Prescott and Motley have transformed histories from a mere recital of facts—a collection of dates—to glowing, living, reproductions of long-past ages, so too of late certain medical authors have proved that even the dry details of disease can be vivified, and the mind startled into an appreciation of old facts by their being presented in a new and vital form. This charm the work we are considering possesses, and this, conjoined with its real and absolute merits as a reliable and comprehensive work on obstetrics, will make its perusal not a task but a satisfactory pleasure to many who have awaited the publication of such a system of midwifery. W. F. J.

ART. XXI.—*Sex in Education, or A Fair Chance for the Girls.* BY EDWARD H. CLARKE, M.D., Member of the Massachusetts Medical Society; Fellow of American Academy of Arts and Sciences; late Prof. of Materia Medica in Harvard College, etc. 16mo. pp. 181. Boston: James R. Osgood & Co., 1873.

THIS little volume is a reproduction and enlargement of a lecture delivered before the New England Women's Club, in Boston, about a year ago. We are not surprised to learn from the author's preface that it

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[1] Hecker, Monatschrift f. Geburtskunde, B 29, p. 321.